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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/088,737	06/02/1998	RYUZO KOANA	862.2339	2096

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EXAMINER	
POON, KING Y	

ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/088,737	KOANA, RYUZO	
	Examiner	Art Unit	
	King Y. Poon	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 March 2002 and 19 April 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-6,8-16,19-21 and 23-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-6,8-16,19-21 and 23-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Request for Continued Examination

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/20/2002 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 4, 5, 8, 12-16, 19, 20, 23, 27-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lobiondo (U.S. Patent # 5,287,194) in view of Matsumoto et al. (U.S. Patent # 5,754,744).

Regarding claims 1, 30, 32, 33, 34, and 35: Lobiondo teaches a data processing apparatus (server 60, column 3, lines 40-50) having connection means (25, fig. 1, column 3, line 25) for being connected to a plurality of image output apparatuses, (printers 10, column 3, line 25)

comprising: first obtaining means (the function of scheduler 50 that is obtaining print job information from workstation, column 3, lines 35-50) for obtaining first data (print job information) associated with an image output job, the first data being designated by an operator; (user, column 3, line 54) second obtaining means (the function part of the scheduler 50 that is obtaining printer information, column 3, lines 64-69, column 4, lines 1-15) for obtaining second data (printer information) associated with each of the plurality of image output apparatuses; selection means (the function part of the scheduler 50 that is scheduling print jobs to one or more printers, column 3, lines 40-50) for selecting an image output apparatus, based on the first data and the second data, (column 3, lines 40-50) from the plurality of image output apparatuses; and job assigning means (the function part of the scheduler 50 that is allocating print jobs to printers, column 4, lines 58-61) for assigning the image output job to the image output apparatus selected by the selection means, wherein, in a case where the first data designated by the operator designates to select an image output apparatus which completes execution of the image output job in a shortest time, (column 4, lines 50-55), the selection means selects an image output apparatus from among the plurality of image output apparatuses which can perform an output operation in the shortest time (column 4, lines 50-60) based on second data for each of the respective image output apparatuses which indicates a number of output jobs assigned to each of the image output apparatus which have not yet been output. (Large number of job in a print queue, column 5, lines 23-35)

Lobiondo does not teach the second data/printer information indicates a time required by each of the image output apparatuses to output one page of an output job, and the large number of output jobs are measured using number of pages of the output jobs.

Matsumoto, in the same area of printing pages of document using printers, teaches that the time (1 minute, column 11, lines 5-6) for a printer to print an output job (10 pages column 11, lines 4) is calculated by: a time required by the image output apparatus to output one page of an output job; (10 pages per minute, column 11, line 5) and a number of pages for output jobs (10 pages, column 11, line 4).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Lobiondo's print job completion time calculation method to include: in the second data/printer information, a time required by each of the image output apparatuses to output one page of an output job, and a number of pages for output jobs assigned to each of the image output apparatuses.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Lobiondo's print job completion time calculation method by the teaching of Matsumoto because of the following reasons: (a) it would have allowed the printing system to accurately predict which image output apparatus can print the print job in the shortest time.

Regarding claim 4: Lobiondo teaches selection means comprises confirmation means (the function part of the scheduler that is responsive to the capability and availability of each printer)

for confirming a function of each of the plurality of image output apparatuses connected the connection means, and selects (3, lines 40-50) the image output apparatus having the function to perform an output operation corresponding to the first and second data.

Regarding claims 5, and 20: Lobiondo teaches wherein the confirmation means confirms the function of each of the plurality of image output apparatuses by referring to a memory column 4, lines 1-15) which stores, in advance, data indicative of the function of each of the plurality of image output apparatuses connected by the connection means.

Regarding claim 8: Lobiondo teaches display means (column 6, line 21) for displaying a message regarding an execution state of the image output job assigned to each of the plurality of image output apparatuses connected by the connection means (column 5, lines 10-25, column 6, lines 10-21).

Regarding claim 12: Lobiondo teaches wherein in a case where there are plural image output apparatuses which can perform an output operation (the printer with full print queue, column 5 line 31, and the different printer that can print the print job, column 5 line 28) corresponding to the first and second data, the selection means selects one of the plural image output apparatuses based on priorities (use selected print location, column 5, line 18) set in advance.

Regarding claim 13: Lobiondo teaches in a case where there are plural image output apparatuses which can perform an output operation (the printer with full print queue, column 5 line 31, and the different printer that can print the print job, column 5 line 28) corresponding to

the first and second data, the selection means allows an operator to select one of the plural image output apparatuses (column 5 line 25-35).

Regarding claim 14: Lobiondo teaches where the first data designates plural output forms, (column 4, lines 49-50), the selection means selects an image output apparatus which can perform an output operation in all of the plural output forms (column 4, lines 45-61).

Regarding claim 15: Lobiondo teaches an image output system (fig. 1) comprising the data processing apparatus (60, fig. 1) according to claim 1 and a plurality of image output apparatuses (10, fig. 1, column 3, lines 20-35) connected to the data processing apparatus by the connection means (25, column 3, line 25)

Regarding claims 16, 19, 20, 23, 27-29, 31: Claims 16, 19, 20, 23, 27-29, 31 are method steps for the apparatus discussed in claims 1, 4, 5, 8, 12-14, 30. Please see discussion on claims 1, 4, 5, 8, 12-14, 30.

4. Claims 6 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lobiondo in view of Matsumoto as applied to claims 4, and 19, and further in view of Shibusawa et al. (U.S. Patent # 6,088,120)

Regarding claims 6, and 21: Lobiondo in view of Matsumoto do not teach wherein the confirmation means confirms the function of each of the plurality of image output apparatuses by communicating with each of the plurality of image output apparatuses connected by the connection means.

Shibusawa, in the same area of selecting a printer to print according to users inputted print attributes, teaches a confirmation means, (physical printer managing means, column 3 line 20-28) confirms the function of each of the plurality of image output apparatuses by communicating with each of the plurality of image output apparatuses connected by the connection means (column 3 line 20-30, column 4 line 35-40).

Therefore, it would have been obvious to a person having ordinary skill in the at the time the invention was made to have modified Lobiondo in view of Matsumoto's confirmation means for confirming the function of each of the plurality of image output apparatuses by communicating with each of the plurality of image output apparatuses connected by the connection means.

It would have been obvious to a person having ordinary skill in the at the time the invention was made to have modified Lobiondo in view of Matsumoto's conformation means by the teaching of Shibusawa because of the following reasons: (a) to receive the changes of attribute information, such as paper type, of the printers, as taught by Shibusawa at column 4 line 35-40, column 5 line 15-30; (b) updating the changes of attribute information of printers would provide an accurate printer profiles; and (c) to confirm the functions of each of the printers by communicating with each of the plurality of printers so that the network, that the printers are connected, is updated and the user would know each function of each printer in the network environment.

5. Claims 9 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lobiondo in view of Matsumoto as applied to claims 1, and 16, and further in view of Barry et al. (U.S. Patent # 5,859,711).

Regarding claims 9, and 24: Lobiondo in view of Matsumoto does not teach wherein in a case where the first data further designates to select an image output apparatus capable of a color image output, the selection means confirms function of each of the image output apparatuses and select an image output apparatus which can perform the color image output.

Barry et al. teaches where data designates to select an image output apparatus capable of a color image output, (column 14 line 1-15, column 14 line 64-68) an image output apparatus which can perform the color image output is selected.

Therefore, it would have been obvious to a person having ordinary skill in the at the time the invention was made to have modified Lobiondo in view of Matsumoto's data processing apparatus to include: in a case where the first data further designates to select an image output apparatus capable of a color image output, the selection means confirms function of each of the image output apparatuses and select an image output apparatus which can perform the color image output.

It would have been obvious to a person having ordinary skill in the at the time the invention was made to have modified Lobiondo in view of Matsumoto's data processing apparatus by the teaching of Barry et al. because of the following reasons: (a) a cost saving would be achieved since it is cheaper to print black and white pages on a black and white printer than it

is to print on a color printer, as taught by Barry et al. at column 14 line 39-45; (b) it is faster to print black and white pages on a black and white printer than it is to print on a color printer, as taught by Barry et al. at column 14 line 9-15.

6. Claims 10, 11, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lobiondo in view of Matsumoto as applied to claims 1, and 16, and further in view of Hower, Jr. et al. (U.S. Patent # 5,467,434).

Regarding claims 10, and 25: Lobiondo in view of Matsumoto does not teach wherein in a case where the first data further designates to select an image output apparatus capable of printing on both sides of a recording medium, the selection means confirms a function of each of the plurality of image output apparatuses connected by the connection means and selects an image output apparatus which can perform the printing on both sides of the recording medium.

Hower, Jr. et al., in the same area of selecting printers for printing based on printer option availability, teaches in a case where a first data (programming selections, column 4 line 53-54) designates to select an image output apparatus capable of printing on both sides (duplex of column 8 line 42) of a recording medium, a selection means (program steps of fig. 8) confirms a function of each of the plurality of image output apparatuses connected by the connection means and selects an image output apparatus which can perform the printing on both sides of the recording medium (column 6 line 5-50).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Lobiondo in view of Matsumoto's data processing apparatus to include: in a case where the first data further designates to select an image output apparatus capable of printing on both sides of a recording medium, the selection means confirms a function of each of the plurality of image output apparatuses connected by the connection means and selects an image output apparatus which can perform the printing on both sides of the recording medium.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Lobiondo in view of Matsumoto's data processing apparatus by the teaching of Hower, Jr. et al. because of the following reasons: (a) it would have prevented users from sending a duplex printing job to a printer that does not perform duplex printing; and (b) it would have allowed duplex print jobs to be sent to printers that can perform duplex printing and thereby, prevent the waste of communication bandwidth for transmitting print jobs to printers that is not capable of printing the print job.

Regarding claims 11, and 26: Lobiondo in view of Matsumoto does not teach wherein in a case where the first data further designates a size of an output image, the selection means confirms a function of each of the plurality of image output apparatuses connected by the connection means and selects an image output apparatus which can perform an output operation in the designated size.

Hower, Jr. et al., in the same area of selecting printers for printing based on printer option availability, teaches in a case where the first data (programming selections, column 4 line 53-54) designates a size of an output image, (page size, column 6 line 4) the selection means (program steps of fig. 8) confirms a function of each of the plurality of image output apparatuses connected by said connection means and selects an image output apparatus which can perform an output operation in the designated size (column 6 line 5-50).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Lobiondo in view of Matsumoto's data processing apparatus to include: in a case where the first data further designates a size of an output image, the selection means confirms a function of each of the plurality of image output apparatuses connected by the connection means and selects an image output apparatus which can perform an output operation in the designated size.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Lobiondo in view of Matsumoto's data processing apparatus by the teaching of Hower, Jr. et al. because of the following reasons: (a) it would have prevented users from sending a size of an output image in a printing job to a printer that cannot print the size of the output image in the print job; and (b) it would have allowed a size of an output image in a printing job to be sent to printers that can print the size and thereby, prevent the waste of communication bandwidth for transmitting print jobs to printers that is not capable of printing the print job.

Response to Arguments

7. Applicant's arguments filed 3/20/2002 have been fully considered but they are not persuasive.

With respect to applicant's argument that the applied art does not teach: selecting an image output apparatus, based on the first data and the second data, from the plurality of image output apparatuses; assigning the image output job to the image output apparatus selected by the selection means, wherein, in a case where the first data designated by the operator designates to select an image output apparatus which completes execution of the image output job in a shortest time, the selection means selects an image output apparatus from among the plurality of image output apparatuses which can perform an output operation in the shortest time based on second data for each of the respective image output apparatuses which indicate a time required by each of the image output apparatuses to output one page of the output job, and a number of pages for output jobs assigned to each of the image output apparatus which have not yet been output, has been considered.

In reply: Lobiondo teaches a data processing apparatus (server 60, column 3, lines 40-50) having connection means (25, fig. 1, column 3, line 25) for being connected to a plurality of image output apparatuses, (printers 10, column 3, line 25) comprising: first obtaining means (the function of scheduler 50 that is obtaining print job information from workstation, column 3, lines 35-50) for obtaining first data (print job information) associated with an image output job, the

first data being designated by an operator; (user, column 3, line 54) second obtaining means (the function part of the scheduler 50 that is obtaining printer information, column 3, lines 64-69, column 4, lines 1-15) for obtaining second data (printer information) associated with each of the plurality of image output apparatuses; selection means (the function part of the scheduler 50 that is scheduling print jobs to one or more printers, column 3, lines 40-50) for selecting an image output apparatus, based on the first data and the second data, (column 3, lines 40-50) from the plurality of image output apparatuses; and job assigning means (the function part of the scheduler 50 that is allocating print jobs to printers, column 4, lines 58-61) for assigning the image output job to the image output apparatus selected by the selection means, wherein, in a case where the first data designated by the operator designates to select an image output apparatus which completes execution of the image output job in a shortest time, (column 4, lines 50-55), the selection means selects an image output apparatus from among the plurality of image output apparatuses which can perform an output operation in the shortest time (column 4, lines 50-60) based on second data for each of the respective image output apparatuses which indicates a number of output jobs assigned to each of the image output apparatus which have not yet been output. (Large number of jobs in a print queue, column 5, lines 23-35)

Lobiondo does not teach the second data/printer information indicates a time required by each of the image output apparatuses to output one page of an output job, and the large number of jobs are measured using number of pages of the output jobs.

Matsumoto, in the same area of printing pages of document using printers, teaches that the time (1 minute, column 11, lines 5-6) for a printer to print an output job (10 pages column 11, lines 4) is calculated by: a time required by the image output apparatus to output one page of an output job; (10 pages per minute, column 11, line 5) and a number of pages for output jobs (10 pages, column 11, line 4).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Lobiondo's print job completion time calculation method to include: in the second data/printer information, a time required by each of the image output apparatuses to output one page of an output job, and a number of pages for output jobs assigned to each of the image output apparatuses.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Lobiondo's print job completion time calculation method by the teaching of Matsumoto because of the following reasons: (a) it would have allowed the printing system to accurately predict which image output apparatus can print the print job in the shortest time.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to King Y. Poon whose telephone number is (703) 305-0892 or to Supervisor Mr. David Moore whose phone number is (703) 308-7452.

June 19, 2002

GABRIEL GARCIA
PRIMARY EXAMINER